

[Image 1 about here]

# To Excel at bridewealth, or ceremonies of Office

## ABSTRACT

At a bridewealth payment made at the start of a wedding in Papua New Guinea the groom diligently kept a note of contributions from relatives and co-workers. The next day he used one of his employer's computers to compile an Excel spreadsheet that detailed all the guests, what each one brought, and, in a separate column, its value in money. Turning people's gifts into nominal amounts of money helped register these into an enduring electronic form. The spreadsheet – an all-too-familiar tool of enumeration – gave the groom a record of transactions going forward. Papua New Guinea is most often known for the widespread emphasis placed on gift giving, large prestations important especially in the making of the Big Men, which are based on the belief in the high status of the giver and the onus of reciprocity. Today spreadsheets permit transactions to be analysed in a very different way, namely in terms of currency-like properties, allowing Papua New Guineans to understand, tap into and ultimately control the powers of money that echo current debates about the manipulation of big data.

## PAPER

Following Polanyi (1957), anthropologists have worked to re-embed the economic in the social (or reveal the social in the economic; or collapse the distinction), and latterly these kinds of approach have been extended to the study of technology (Ingold 1997). Some insist that technology and people shape each other, others that people and money contour each other, but the two conversations rarely meet—except where authors suggest such-and-such new monetary technology hails a more embedded, democratic or inventive economy (e.g. Hart 2000, Maurer 2012, and Pickles 2013). In this article I will showcase 'Highlanders' entrepreneurial uses for both Excel and money (Pickles 2014). I show how a commonplace piece of spreadsheet software has been folded into social life in highland Papua New Guinea (PNG) by focusing on a groom tabulating his bridewealth payment to enumerate their prestations going forward. This is *not* to suggest that the way that the spreadsheet is used is in some Melanesian way different from Ours, but to show that the process of distilling data from the stuff of everyday life necessarily involves value judgements that are based on existing referents, in this case money. The case study ultimately throws comparative light on global debates about the way big data is interpreted.

'Highlanders' share a history of colonial and missionary contact. Today 'Highlanders' self-identify as members of a cultural region, citing bridewealth, sharing, business savvyness,

prowess, a lack of jealousy and witchcraft as unifying features amid considerable diversity. The PNG Highlands is renowned in anthropological literature for its large competitive gift prestations (and to a lesser extent the bridewealth prestation). Highlanders attach an ever-increasing amount of prestige to big-money bridewealth payments; costs escalate as one moves west and as one approaches urban areas, but bridewealth costs have also been snowballing in the region as a whole. Money has been the most important component in these payments for at least forty years, replacing such items as shell valuables (which themselves experienced rapid inflation before collapsing), dogs teeth and feathers. Pigs remain both necessary and important, but frequently these days (especially in urban settings) the pigs needed for a payment are bought rather than raised by one's own kin.

Bridewealth is continually contrasted against sharing within the kinship community, which is considered productive of social relations; even in places like Goroka where daily forms of sharing involve monetary purchases more than anything else (see Akin & Robbins 1999). In the past, payments were mostly remembered by participants in their complex details without monetizing everything. The spreadsheet used today permits a change in remembering. It is this process I wish to describe here.

Stimulated by the ever increasing importance of money, people observe that money crosses kinship divides with ease. As a form of wealth, money carries no marks of previous ownership, allowing people to 'forget' who gave it to them. Trying to understand the value and properties of money(s) is therefore really important if you want to get ahead in Highland PNG.

[Image 2 about here]

The bridewealth payment in question happened in 2009, when I lived in Goroka, a mid-size town in Eastern Highlands Province. At the staff section of a work compound I frequented, familiar faces were surrounded by others who were clearly both related and from rural parts. I approached Pasde, Head of Kitchen, as he was evidently central to the proceedings.<sup>i</sup> He was about to make the major instalment of bridewealth for his third wife after two previous marriages had failed. Though he lived in the compound, Pasde originated from a hamlet a couple of hours south of Goroka by road. The bride-to-be was from a neighbouring settlement only a few minutes' walk from Pasde's home.

It had been a struggle for Pasde to gather money together. He himself had saved K2,000 (PNG Kina)<sup>ii</sup> in cash and bought a K700 pig, almost precisely half the value of the full bridewealth, and over the next months he was anticipating a regime of street selling for extra income and earth-oven cooking to save on expenditure.

Pasde and a couple of his male clan-mates pondered over the arrangement of gifts to the bride's clan before they arrived, trying to make the pile seem full and lavish. There were massive uncooked sweet potatoes, stems of special-occasion bananas, a bundle of

sugarcane, one of taro and three red pandanus fruits, all artfully organized. A chicken lay with bound legs at the very front. Four boxes of rapidly defrosting lamb flaps (imported fatty belly meat) augmented the stack on one side. As a third marriage, this was supposed to be a relatively inexpensive affair, so it was tricky to create the desired impression of abundance.

[Image 3 about here]

When staff, spouses and family arrived with their gifts, they sat or stood on the side, near the groom, as interested parties who were nonetheless side players and relative outsiders to proceedings. I judged that my place was with them. From that vantage point I watched Pasde noting down gifts along with the names of those who brought them on a piece of paper; not surreptitiously, but not flamboyantly either.

[Image 4 about here]

The bride's party then arrived and organized themselves, and negotiations began. Speeches went back and forth six times before agreement was reached, and it became clear that the food was only the icing on the cake, the interest was in the money that was stuffed in a pocket out of sight. The groom's party were expected to increase their initial offer, and they had a wad ready in another pocket that was 'reluctantly' handed over along with the original amount (see Pickles 2013). In this way the bride's party forced the groom's party to ritually disclose what was always assumed to be kept in reserve (Graeber 1996). The money was not immune to aesthetic embellishment either: wads were routinely composed of crisp new notes in low denominations specially acquired from the bank, and were handed over in beautiful string bags.

Pasde claimed that the list he wrote of contributions amounted to the same thing as the sticks or knotted ropes used for counting and remembering by past generations. Such lists are of course useful in a range of other situations because they bind knowledge to money and people. The following day, outside of work hours and with permission, Pasde went to the office and compiled an Excel spreadsheet as a memory aid.

[Image 5 about here]

[Image 6 about here]

[Image 7 about here]

[Image 8 about here]

[Image 9 about here]

Lists that are handwritten as you go are in important respects distinct from a spreadsheet compiled afterwards. The list involves noting people as you remember them, or as they prompt you by turning up; others might arrive at any moment. To avoid a confusing mess, you have to avoid too much scribbling out, and so that kind of list is usually set out a little

differently to a spreadsheet, with a lot more left open to the contingencies of timing.<sup>iii</sup> Lists are easily adapted for use before, during or after an event, by just drawing up a new one or adding to it, while it is hard to use a spreadsheet 'in the moment'. A spreadsheet compiled *ex post facto*, however, can cleanly mask the changing of contributions as people arrive later or decide to wait to supplement their initial donations.<sup>iv</sup> This happened with Pasde; some of his money was kept in reserve to cover the inevitable inflation that happened through negotiation, but he only included the final count in his spreadsheet. What we are looking at with his spreadsheet then, is a retrospective document that organizes past events, and flattens them into a single moment, replacing the temporality of a list with another axis of organisation, one with other advantages. The document that emerges is considered more useful for future rituals.

[Image 10 about here]

[Image 11 about here]

Pasde compared the spreadsheet to the stock sheet which he was responsible for compiling (also using Excel) on a regular basis for the kitchen he managed. Stock sheets list types of item such as tinned fish or crab sticks in the left hand column, then quantity, then price per item, and then total, with a grand total at the bottom of that column. That document can then be compared systematically with older and newer versions of itself.

Pasde's bridewealth spreadsheet's column headings were 'Name', 'Cash', 'Food', 'Value in Kina', and 'Total.' 'Value in Kina' converted 'Food' into its cash value, which was added to the cash contributions to make the 'Total.' The 'Grand Total' was K5,512. Items of 'Food' were explicitly converted into cash value, and cash value was clearly the primary way that Pasde chose to understand the contributions. A stock sheet for a kitchen routinely makes this kind of conversion because the value of food items is necessary information when designing a menu and accounting for your budget over time.

By comparing the 'value in kina' of various people's food contributions in Pasde's spreadsheet, it is possible to work out that Pasde settled on a standard price for each item, just like prices are standardized in a stock sheet. That was an independent effort; nobody would have told him what each item cost them. According to Pasde a chicken was worth K20, a stem of bananas K30, a taro worth K10, and half a carton of lamb flaps worth K76. Not only did these items vary a lot in terms of size and quality, they would have had very different prices. In town the necessary kind of banana are in high demand and different prices are given in different local markets. But if the attendee either came directly from their village or received a guest from there, they may well have paid nothing for the banana stem. Chickens ranged in price from the muscular at K30 to the mangy at K15. So this was a deliberate strategy of reduction and simplification on Pasde's part, in terms of the items offered, their quality, and an attempt to flatten one of the ways people distinguish themselves through the visible lushness or decrepitude of nominally identical food-gifts like

taro. Their conversion to an estimated value transcended the circumstances of any specific item. The process appears to be the exact opposite to the efforts Pasde and his clan mates had made to arrange their piles of food to make them look abundant, drawing attention to the biggest taro and the best bananas. And indeed to how they arranged their crispy cash. Why the sudden simplification?

[Image 12 about here]

Talking about his future obligations, Pasde stressed that while he would make returns in kind, their size would be based upon the cash value of what he received. He was far more assertive on this front with staff. With kin he had too many overlapping commitments, so the spreadsheet was a less reliable guide to his actions in future; he would respond to the event, not the table. Exactly accounting reciprocity is not appropriate for kin, though it was recorded. On the other hand, as we went through each of the staff contributors, he would say things like: 'Oh him, I helped him when his father died. I did not go, because his father died in Kavieng, but I gave K50 and some food, and went and consoled him. That is why he gave me K50 in cash.' In the case of a man who had given K180 in cash and K76's worth of lamb flaps: 'he is a family friend, I am close to him. We know each other through work, ever since I first came to Goroka in 2001. We share food brought from our villages. I gave food and a chicken when a family member of his died; it was about K100 in food and money that I gave. Our contributions to each other are getting larger.' Pasde was able to recall multiple memories that motivated attendees and their gifts, but they went unwritten and unseen in the spreadsheet, reduced to their most reinterpretable inscription as a value in Kina. The technology of the stock sheet allowed him to convert all the things and all the memories into fungible money, but only to make that an effective guide to his actions with those whose ties with him were not too dense.

The stock sheet could be seen as the prototype document from which the contribution list derives its normativity (Foucault 1977). The contribution list would then be read as an attempt to appropriate the normative, authoritative power of the documentary form of the stock sheet. It would hardly be surprising therefore that it would have its most profound effect in influencing future interactions with those people who are known to Pasde through a formalized, strictly enumerated work environment. However, this is a very partial understanding of what was going on.

To regulate ins and outs, and to avoid theft or fraud, many organizations use stock sheets where those in charge of the stock are at the same time held accountable. But Pasde was not making the spread sheet for work, instead he used the spread sheet to augment his own memory, using the document's normative qualities for his own devices.

[Image 13 about here]

Stock sheets and inventories require comprehensiveness. The author of a stock sheet is trusted to exercise some leeway to explain excess stock or to underreport stock (e.g. Levy 1984). If a stock list is well put together it hardly needs its author to explain things, and thereby stands by itself. However, when poorly put together, the person who has made it becomes very important. It was this flexibility in fixity that Pasde found useful.

Reed (2006) says that the austerity of the design of documents in PNG is what gives them a particular potency, because it allows for multiple interpretations to come to the fore at different times, depending on shifting circumstances. Warders at Bomana gaol (where Reed conducted fieldwork) half-fill forms when a new inmate arrives, and stylistically similar documents are made by inmates chronicling their time in prison. Both sets of would-be bureaucrats claim that the document technology is more potent than their responses. People go inside documents, filling them differently, but the form remains a constant pattern unchanging, directing and turning the people into the same thing. This certainly seems like a stock sheet as I have described it. Reed then argues that document design, like artwork in New Guinea, is a self-generating action, it creates more of itself and all the significations that it can evoke by the very reductiveness of its design. I agree, but I think the more potent analogy to document technologies is money.

Recipients at the bridewealth payment that leads up to a wedding know neither the origin nor the amount, nor the quality of individual contributions because they are in a collective heap; they can only assess the overall quality and quantity. Pasde's representative during negotiation was therefore able to stress that food items were not free but had a monetary value, and that that value was high in Town in a way that many of those who lived rurally could not appreciate. He also talked of the high cost of living in town, and therefore the difficulty of getting the cash together. In this way he made the pile as a whole appear more valuable. Contributors various efforts were wiped clean and replaced. The spreadsheet later documented the effacement of individuals and their efforts as they were turned into a single heap of gift.

The spreadsheet also attempted to retrospectively control that reductive exercise by genericising the price of food items (e.g. chickens cost K20). This is an embedded example of the 'generative possibilities of graphic reductionism' (Goody 1977: 84), one that is modelled on the way money works. Gorokans are intensely aware that money can take the place of anything they can sell, but money is not dependent on the individual things it represents, carrying little except a number across situations, leaving buyer and seller to speculate on whether they got a good deal. Once his own form of reduction was achieved, Pasde was free to reinterpret the gifts he gathered as generous or ungenerous, lavish or piddling, depending on what suited him. Like money's face value, which is not up for negotiation, Pasde's spreadsheet constrains his reinterpretations by giving him a margin of error so as not to over-give or insult when the time comes. Reduction generated new opportunity. In this way Pasde uses spread sheet technology the way that Papua New Guineans use money:

it can be made to look plentiful, but then transported to another context, its face value again predominates, offering its bearer new opportunities.

Lastly, Pasde's use of Excel recalls current debates about the issue of big data brought about by new computing technologies. Companies, governments and citizens are now able to retain a detailed, enduring, but often decontextualized, memory of what happens in the world (see Boyd & Crawford 2012). Despite attempts to depoliticise big data gathering, separating out and privileging certain kinds of information from a complex event is always a matter of choice, a conceptual rubric (Boellstorff 2013). Pasde's efforts remind us that how and why we decontextualize information also depends on the kinds of transformation people think are most intuitive and most effective. For Pasde, this meant following the logic of money.

Technologies like knots and sticks and lists and spreadsheets distil one perspective on one side of a bridewealth payment. Contributions are transformed into an ordered, possessed memory, becoming labile as they are converted into knowledge. Re-contextualizing contributions through Excel technology is a strategy that works in the manner of money: it reduces other things to a form that, by its very austerity, generates more opportunities for its bearer than the items it replaced. Pasde used Excel's technical ability to act like money has become known to act to try to take some control over his debts and their memory. Excel became another medium for making distilling data advantageously.

[Image 14 about here]

[Image 15 about here]

Akin, David and Joel Robbins, Eds. 1999. *Money and modernity: state and local currencies in Melanesia*. Pittsburgh: University of Pittsburgh Press.

Boellstorff, Tom 2013. Making big data, in theory. *First Monday*, 18 (10): no page numbers

Boyd, Danah and Kate Crawford 2012. Critical questions for big data: provocations for a cultural, technological, and scholarly phenomenon. *Information, Communication & Society*, 15 (5): 662-79

Foucault, Michel 1977. *Discipline and punish: the birth of the prison*. New York: Vintage.

Goody, Jack 1977. *The domestication of the savage mind*. Cambridge: Cambridge University Press.

- Graeber, David 1996. Beads and money: notes toward a theory of wealth and power. *American Ethnologist*, 23 (1): 4-24.
- Hart, Keith 2000. *The memory bank: money in an unequal world*. London: Profile.
- Ingold, Tim 1997. Eight themes in the anthropology of technology. *Social Analysis*, 41 (1): 106-38.
- Levy, Steven 1984. A spreadsheet way of knowledge. *Harper's Magazine*, November: 58-64.
- Pickles, Anthony J. 2013. Pocket calculator: a humdrum 'obviator' in Papua New Guinea? *Journal of the Royal Anthropological Institute (JRAI)*, 19 (3): 510-26.
- Pickles, Anthony J. 2014. Gambling futures: playing the imminent in highland Papua New Guinea. In Will Rollason (ed.), *Pacific Futures: Projects, Politics and Interests*, New York: Berghahn, 96-113.
- Polanyi, Karl 1957. *The Great Transformation: The Political and Economic Origins of Our Time*. Boston: Beacon Press.
- Reed, Adam 2006. Documents unfolding. In Annelise Riles (Ed.) *Documents: artifacts of modern knowledge*. Ann Arbor: University of Michigan Press, 158-77.
- Zaloom, Caitlin 2006. *Out of the pits: traders and technology from Chicago to London*. Chicago and London: University of Chicago Press.

---

<sup>i</sup> All names are pseudonyms. 'Pasde' left the company shortly after I left Goroka in 2010, and the couple were quickly divorced. He took a job in a distant town and moved away.

<sup>ii</sup> One PNG Kina is worth about 25 United Kingdom pence.

<sup>iii</sup> Goody investigates the development of listing and other technologies of graphic reduction in the ancient world, and twentieth-century anthropology in *the domestication of the savage mind* (1977).

<sup>iv</sup> For analogies from the world of high finance, see Zaloom 2006, Stein forthcoming.